Groundwater-Surface Water (GW-SW) Interactions Workshop

December 3, 2018 – 9:00 AM to 4:00 PM
CalEPA Building, Klamath Room
1001 I Street, Sacramento, CA 95820

WORKSHOP OVERVIEW

Introduction

California's Sustainable Groundwater Management Act (SGMA) is a landmark law that empowers local agencies to manage groundwater resources. Local groundwater sustainability agencies (GSAs) in high-use groundwater basins are responsible for developing groundwater sustainability plans. Implementation of the groundwater sustainability plan must, by state law, result in a sustainable groundwater basin no later than 2042. One of the most significant and challenging elements in SGMA is the requirement to address conditions where groundwater pumping is impacting surface water bodies. Surface water depletion caused by over-extraction of groundwater has led to decreased surface water flows, fish kills, and in some cases seasonal loss of all surface water flow.

In addition to the powers granted by SGMA to local agencies, the California State Water Resources Control Board (State Water Board) has the responsibility and the authority under the California Water Code and the California Constitution to protect public trust resources and prevent the waste or unreasonable use of water. These doctrines allow for comprehensive regulatory actions when streamflows are affected due to surface or subsurface extractions. There are several examples of State Water Board use of the public trust authority and waste and unreasonable use doctrine to limit groundwater extractions, including regulations to prevent fish kills caused by groundwater pumping for wine grape frost protection, regulations that limited groundwater pumping in salmon-bearing watersheds during the recent drought, and management of cannabis licensing in watersheds with significant cultivation. Furthermore, the State Water Board is currently engaged in efforts in priority watersheds to measure surface water depletions caused by groundwater extraction with an end goal of setting minimum instream flow requirements for those stream systems.

Groundwater-surface water interaction is, however, a relatively novel issue for most water managers in the state. SGMA is new, and to date, none of the required sustainability plans have been completed. Water managers may not be accounting for, or planning for, surface water depletions caused by groundwater pumping. Other states, nations, and interest groups have addressed groundwater-surface water interaction issues, and can provide direction and advice for California's water managers.

State Water Board staff are hosting a workshop on December 3, 2018, to help California water managers identify options and better prepare, plan, and account for new SGMA requirements and the impact of groundwater pumping on surface water instream flows. The purpose of the workshop is to have a panel of experts develop management strategies based on realistic scenarios and present those strategies to workshop attendees for discussion. The goal of the workshop is to provide water managers, including GSAs and others, with a menu of approaches to consider as they contemplate managing their own watersheds to prevent or manage depletions of interconnected surface water. The following directions were developed for the panelists invited to present at the workshop and provide guidance on how to use the background materials and prepare for the workshop.

Directions

Assume you are a local water manager for a public agency in California. You may be a GSA, the county, or you may represent a water district or agency with land (and groundwater/surface water use) in a basin where SGMA applies. You, as a representative for that public agency, are responsible for managing groundwater extractions: (a) without further compromising streamflow and fish habitat; while (b) preserving senior water right claims. You are also responsible for complying with SGMA, and must develop (and implement) a plan that sustainably manages groundwater extractions within 20 years. Your groundwater plan must account for groundwater-surface water interconnections, and must prevent "depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water." (Cal. Wat. Code, § 10721, subd. (x)(6).)

You have been provided a hypothetical case study that describes the general geologic conditions, surface water locations, land use, and groundwater and surface water use within the groundwater basin and surface watershed. Each case study watershed provides a different combination of physical settings with specific management objectives.

State Water Board staff would like you to consider these physical settings and objectives in the context of managing depletions to avoid significant and unreasonable adverse impacts. Please use your unique insights from managing your own (real) local watershed(s) to describe a general management approach for the case study watershed, with a specific focus on interconnected surface water and groundwater. Each watershed should consider the overarching management goal of avoiding groundwater conditions that cause depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of surface water. Please address the following questions as you present your proposed approach for addressing depletions:

- What are the data needs and how would you acquire them?
- How would you measure the level of surface water depletion caused by groundwater pumping in the basin or watershed?
- What studies or technical investigations are appropriate or needed?
- What management actions or projects are needed to achieve management objectives?
    - What are the short and long-term actions that may be taken?
- What is the proposed timeline and budget for your recommended actions?
- What are the expected outcomes and how will they be demonstrated? Over what timeframe?

Your case study watershed may also have additional site-specific questions or objectives.

General Workshop Format

The workshop will include introductory remarks by State Water Board staff and an overview of the challenges associated with the topic of depletions and interconnected surface water.
The workshop will also include an opportunity for the audience and panelists to discuss and ask questions about the approaches. Staff hope to address the following two questions: 1) in what instances would panelists apply their recommendations to other watersheds and 2) what factors would need to be considered before applying the recommendations? The workshop will close with comments from State Water Board staff.